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An

Inaugural dissertation
On Calomel
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In the present improved state of medical science, the student unacquainted with the practical part of his profession, (that is without some experimental knowledge) will often find, himself at a loss, when he is called upon to produce a dissertation, on some one particular medicine or disease, and he will be compelled to resort to the writings or experience of others to confirm his theoretical observations. I am aware that I have selected as a subject, a medicine upon which much has been said, both in its praise, and with an intention, to prejudice the mind of the profession, and the world at large against it; but having seen some of its beneficial effects in the cure of disease, I can not refrain from speaking in its praise, in the highest terms. It is unnecessary for me, at present to enter into an elaborate description of mercury or

of its various preparations suffice it to say it has been used in some one of its forms, for a great length of time. I shall only attempt to give some account of Calomel, that is of its chemical properties, or its component parts according to the latest improvement in Chemical science and of its application to the cure of some of the diseases to which man is liable. According to the new doctrine of Davy Calomel consists of one proportional part of chlorine, and one proportional part of the metal. and should therefore be denominated, a Chloride or a proto Chloride, of Mercury, which is the title most generally given to it. But should the present doctrine of Chlorine ever be exploded, we shall again be compelled to change the term chloride for some other. Would it not be preferable in the present case, to use the term calomel, by which the

article is generally known, until we arrive at a more definite conclusion, as to its composition? As there are several methods of procuring Calomel, from the metal, I shall not undertake to describe them here, but shall proceed to the examination of some of its sensible qualities. When procured pure it exhibits a semi transparent mass, consisting of short prismatic crystals, terminated by pyramids. Calomel is inodorous, insipid, and of an Ivory colour. It becomes darkened by exposure to light, and is nearly insoluble in water. The alkalies and lime water decompose it and turn it black. Soap and the sulphurets of antimony and potash, decompose it, also iron lead and copper. Hence we discover the impropriety, of using metalic mortars, in preparing prescriptions into which this medicine enters.

Respecting the modus operandi of this remedy

there is and has been for many years considera
ble disputation. When he finds such conflicting
opinions, as in the present case the candid, enqui
rer after truth is often placed in a situation
in which he is fearful, of moving lest by so-
doing he should fall into error. He reads one
author, who declares to him that he has instituted
a series of experiments and that the result of
those experiments, has forced the conclusion on
his mind, that the doctrines of the Humoral
Pathology are founded on truth and never
can be shaken. Not satisfied here he is still
anxious to give the subject a more thorough
investigation. He accordingly consults another
author, who declares to him that this doctrine is
erroneous and that no article whatever is taken
into the circulation, un assimilated, or that all
articles are changed into the nature of chyle
before they can be received into the circulation

without producing deleterious consequences or even death. These authors are both men of eminence in their profession and men whose veracity he dare not call in question. The one tells him that calomel operates, and produces its Specific effects on the System, by being taken into the circulation and carried to the different parts of the body; the other affirms that it makes its primary impression on the stomach, and that this impression is conveyed by sympathy throughout the different parts of the body. He is now left to decide for himself, on this point, from the arguments adduced by the contending parties. Here he is too apt to give way to prejudice, or follow the opinions of his instructors.

While all this disputation is carried on respecting the manner in which this remedy produces its effects on living matter, we find it affects not its real practical utility. For it matters not with the prac

tical, physician, whether it is taken into the circulation, or makes its primary impression on the stomach, and by sympathy affects the other parts of the body; the result he sees, its utility he has experienced, and its general applicability to the cure of very many diseases, he knows how to appreciate. Nevertheless the truly scientific physician, not only wishes to know, that certain remedies, will produce certain effects, when administered under certain circumstances, but he is anxious to know the manner in which these remedies act, in order to produce those effects. The great variety of diseases, to the cure of which this remedy has been applied will make it impracticable for me to give a full investigation of the whole; I shall therefore only mention some of those diseases in which it appears to me to act with the most decidedly beneficial effects.

I am convinced that Calomel is a remedy which has been as much abused, by empirics and ignorant pretenders, as any other, but this does not detract from its real utility, when in the hands of one who knows its effects and its application. Take from the physician Calomel and you deprive him of one of the strongest weapons, with which he is enabled to meet and successfully combat disease. Return it again and you enable him to go forth allmost undismayed, to contend with some of the most violent forms of disease, to which man is liable. In fact may I not say, that it is the sampson of the Materia Medica or the Magnum dei donum to man when judiciously employed. As a remedy in fevers Calomel has long been used, and its beneficial effects are well known. Fever is a general disease of the system, characterised, by diminution, generally, but always

by a morbid condition of the action of the organs productive of the secretions, the skin is dry, with partial or entire cessation of its natural function, diminished secretion of urine parched mucous surfaces as seen in the condition of the tongue; diminished glandular action, exemplified in the absence of saliva, and no doubt, the gastric juice, and mucous secretions of the bowels, are in many cases scanty. In some cases the bile is not produced in usual quantities. More commonly however a green and vitiated matter escapes in enormous quantities from the liver, and forms a solitary instance of increased action, in a torpid system. In fevers we sometimes find derangement in the muscular system, as shown by pains, and general soreness or an indisposition to action and likewise, by the irregular and spasmodic movements of the heart. The nervous system, is

impaired, in energy, or is in increased but irregular action. The sensations are either dull or painfully acute; either there is stupor, or delirium to some extent. These are some of the effects of fever on the human System. If we could at once point out the cause of this general anarchy, we should not long be at a loss for certain antidotes; but after all the disputes on the subject may we not say that the Pathology of fever is unknown, and we are left to persue the old mode of alleviating Symptoms or effects. These are increased or lessened Secretions, morbid action, in the moving powers of the blood, local pains, muscular derangement, and an unnatural dullness, or sensitiveness, of the nervous System. If we can alleviate all these effects of Symptoms, we may be very certain, that we can either remove or render harmless the unknown cause of all — —

Having these symptoms before us, we are to use such remedies, as are best calculated, to restore their, healthy action to the various organs of the system. We will now enquire, what are the effects of Calomel on the system. We find that, when exhibited in doses of 10 or 15 grains it operates as a cathartic, and sometimes as an emetic. When given in large or cathartic doses it irritates the stomach, and its good effects are confined to the intestines and liver. But when given in small and frequently repeated doses, it acts on every organ, and if carried to sufficient extent, to produce slight ptyalism it in many cases, undermines the often hidden cause of disease, and establishes its own peculiar action in the system, which gradually subsiding leaves the body in a comparatively healthy state. From what has been said of the effects of Calomel, on the system and the symptoms

of fever, it will, at once be seen that it is one of the most powerful remedies in the cure of this class of disease,

It may be combined with various other remedies, as with Jalap to increase its cathartic properties; with opium to allay irritation, and with small portions of Tart. antimony, with a view of determining to the surface and producing an alterative action in the Capillaries, In all fevers there is a diseased action in this set of vessels, and from the pervading qualities of calomel, and the power which it possesses when combined with certain, diaphoretics, of acting on the same, we may safely recommend it as a valuable remedy, in febrile diseases.

In the writings of Dr Armstrong on Typhus fever we find the following remark "Calomel has a more general influence than any other cathartic; it excites a degree of nausea in the

stomach, emulges the biliary ducts, dislodges Scybala most effectually, corrects morbid, secretions, and with small doses of antimonial powder, or of the Tartrite of antimony promotes perspiration as well as purges." Those who have read the writings of Johnson on the diseases of tropical climates will know how to appreciate the value of calomel, in the treatment ~~of the~~ form of fever which prevails in hot climates. In intermittents, after the exhibition, of an Emetic we find no remedy, which acts so well in cleansing the alimentary canal, of that load of unhealthy secretions with which, it is always more or less burthened, and as the Chylopoietic viscera are more or less deranged, in this disease, it becomes a matter of great importance that a healthy state of these viscera, should be brought about by some means, and if we search the Materia medica through, we shall discover no remedy

so well calculated to accomplish our object as calomel. —

It is a fact, (I believe, admitted by all) that we are acquainted with no remedy which acts with more certainty, or energy on the liver or indeed on the whole system. Professor Chapman when when speaking of mercury says "Confessedly there is no article of the materia medica so diffusible in its effects, which pervading the whole system, enters into every recess, and acting on every part, leaves no morbid impression untouched." It prepares the system for the exhibition of the bark, which coming in after the bowels have been thoroughly evacuated by Calomel acts with the best effects.

There is a form of this disease, which has prevailed for some years in the Southern States which calls for more energetic means than are employed in ordinary cases, the patient is

suddenly attacked with the disease, and three or four paroxysms put an end to his existence, unlys the most vigorous means be employed to rescue him The disease comes on with languor and drowsiness succeeded by a slight chill, which lasts only a few minutes, when the most powerful reaction takes place and in half an hour, the patient is laboring under the most violent degree of excitement, respiration laboured, skin hot and dry, tongue parched, sick stomach, great thirst and slight determination to the head. The pulse in this disease is regular but somewhat irritated This stage lasts, probably six or eight hours, after which the sweating stage comes on, and the patient is relieved of all those distressing symptoms, but still complains of dull, languid sensation, with a sense of heaviness in the right Hypochondriac region. On the succeeding day the chill again returns accompanied with

an augmentation of all the above mentioned symptoms. Thus it continues increasing in violence, until the system can no longer withstand the ravages of the disease, and the patient sinks under the load of oppression. Various plans of treatment have been proposed for the cure of this form of intermittent, such as, the free use of V.S. and demulcent drinks during the Pyrexia, and after the bowels have been evacuated, the bark has been used during the apyrexia, but with no good effect, augmenting rather than mitigating the disease.

No plan of treatment has proved so successful as the mercureal. Purge the patient freely with calomel in doses of from a scruple to a drachm of calomel combined with a few grains of the Pulvis Jacobi. followed by a Saline Cathartic if it should be found necessary, and this plan of treatment is to be persevered in until the evacuations become of a healthy appearance, when we

may resort to the use of the bark, in combination with Serpentaria, with safety and good effect. In this form of disease there is a want of the natural function of the liver, and instead of a redundancy there is a deficiency of bile. You may purge your patient with the ordinary catharlics, as Jalap, Aloes, Senna, or the nutral salts, and you bring from him nothing but the vitiated secretions of the bowels. In this state of things administer a large dose of calomel, (say 40 grains) for a small dose seems at this time to be of little service) and you revive the energies of the liver, which appear to have laied dormant, under the operation of every other catharlic, and you have a copious discharge of bile, this however is not natural so far from this indeed it has the appearance and consistence of tar. I am aware that it is asserted by some that, this appearance of the discharge is dependent on the decomposition of the calomel.

while passing through the bowels, but this does not appear to me to be the most reasonable conclusion; for I have seen the mercureal purges continued for several days, when the evacuations would entirely change in their appearance, and become healthy. Moreover, is it rational to suppose that the small quantity of Calomel administered at a dose, would be sufficient to give this dark appearance to the immense quantity of matter, which we find in many of those cases, Would it not be more consistent with reason, and the economy of living matter to suppose that this dark colour of the evacuations depended on a diseased action, in the Chylopoetic viscera? May we not say that this diseased action is again dependant on a determination of blood to these viscera especially to the Liver? Calomel being administered, the action of which produces a remarcable impression on this organ, stimulates it and causes it to throw out, this peculiarly

fula and unnatural secretion, its natural function being suspended by the disease present. I will admit that you may purge a man in apparent good health with calomel, until you produce this black discharge, but I contend that by the action of your medicine you first produce a derangement of the natural function of the liver. And is not this too often done by Calomel?